LISTING OF THE CLAIMS

The following is a complete listing of all the claims in the application, with an indication of the status of each:

1. (Previously presented) A processor-implemented method for statistical regression using ensembles of classification solutions comprising the steps of:

employing a processor to run k-means clustering for k clusters on the set of values $\{y_i, i = 1 \ldots n\}$;

employing a processor to record a mean value m_j of a cluster c_j for $j = 1 \ldots k$;

employing a processor to transform regression data into classification data with a class label for an i-th case being a cluster number of y_i;

employing a processor to apply ensemble classifier and obtain by a machine learning method a set of rules R; and

employing a processor to make a prediction for new case u, using a margin of M, where $0 \leq M \leq 1$.

2. (Previously presented) The processor-implemented method recited in claim 1, wherein the step of making a prediction comprises the steps of:

employing a processor to apply all the rules R on the new case u;

for each class i, employing a processor to count a number of satisfied rules (votes) v_i;

employing a processor to classify t has the most votes, v_t;

employing a processor to consider a set of classes $P = \{p\}$ such that $v_p \geq M \cdot v_i$; and

employing a processor to generate a predicted output for case u,

$$y_u' = \frac{\sum_{j \in p} m_j v_j}{\sum_{j \in p} v_j}.$$

3. (Previously presented) A processor-implemented method of pattern

recognition comprising the steps of:

employing a processor to apply clustering processes to determine a number of classes;

employing a processor to apply a machine learning method to find an ensemble of classification rules;

employing a processor to apply ensemble learning classification processes to predict most likely classes for a new example; and

then employing a processor to average regression values of most likely classes to predict a value of a new example.

4. (Previously presented) A processor-implemented method of pattern recognition for a set of values, said method comprising the steps of:

employing a processor to determine a number of classes to be generated based on a trend of error of a class mean/median for the set of values;

employing a processor to classify the values using ensemble learning classification and the determined number of classes;

employing a processor to generate by a machine learning method a set of classification rules; and

employing a processor to average regression values of most likely classes to predict a value of a new example based on the set of rules.

5. (Previously presented) A processor-implemented method of pattern recognition according to claim 4, wherein said step of determining a number of classes comprises the steps of:

employing a processor to determine the class mean/median for a variable number of classes;

employing a processor to determine a mean absolute deviation (MAD) based on the class means/medians; and

employing a processor to compare the MAD to a predetermined percentage of MAD.

6. (Previously presented) A processor-implemented method of pattern

recognition according to claim 4, wherein the step of averaging regression values includes employing a processor to use margins for predicting the value of the new example.

7. (Previously presented) A processor-implemented method of pattern recognition according to claim 4, wherein the step of averaging regression values comprises the steps of:

employing a processor to apply the set of classification rules to the new example;

for each class i, employing a processor to count a number of satisfied rules (votes) v_i;

employing a processor to classify t has the most votes, v_t;

employing a processor to consider a set of classes $P = \{p\}$ such that $v_p \geq M \cdot v_t$; and

employing a processor to generate a predicted output for case u, $y_u' = \frac{\sum_{j \in p} m_j v_j}{\sum_{j \in p} v_j}$.